

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: LUMARK

Report Number: P196755

Luminaire Tested: **NAV-AF-03-D-UNV-T2R-7030-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196755
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24459)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-03-D-UNV-T2R-7030-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12096.1 lumens
Efficiency: N/A
Efficacy: 126.0 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type II - Short - Semi-Cutoff
BUG Rating: B2 - U0 - G2

Input Watts (W): 96
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT

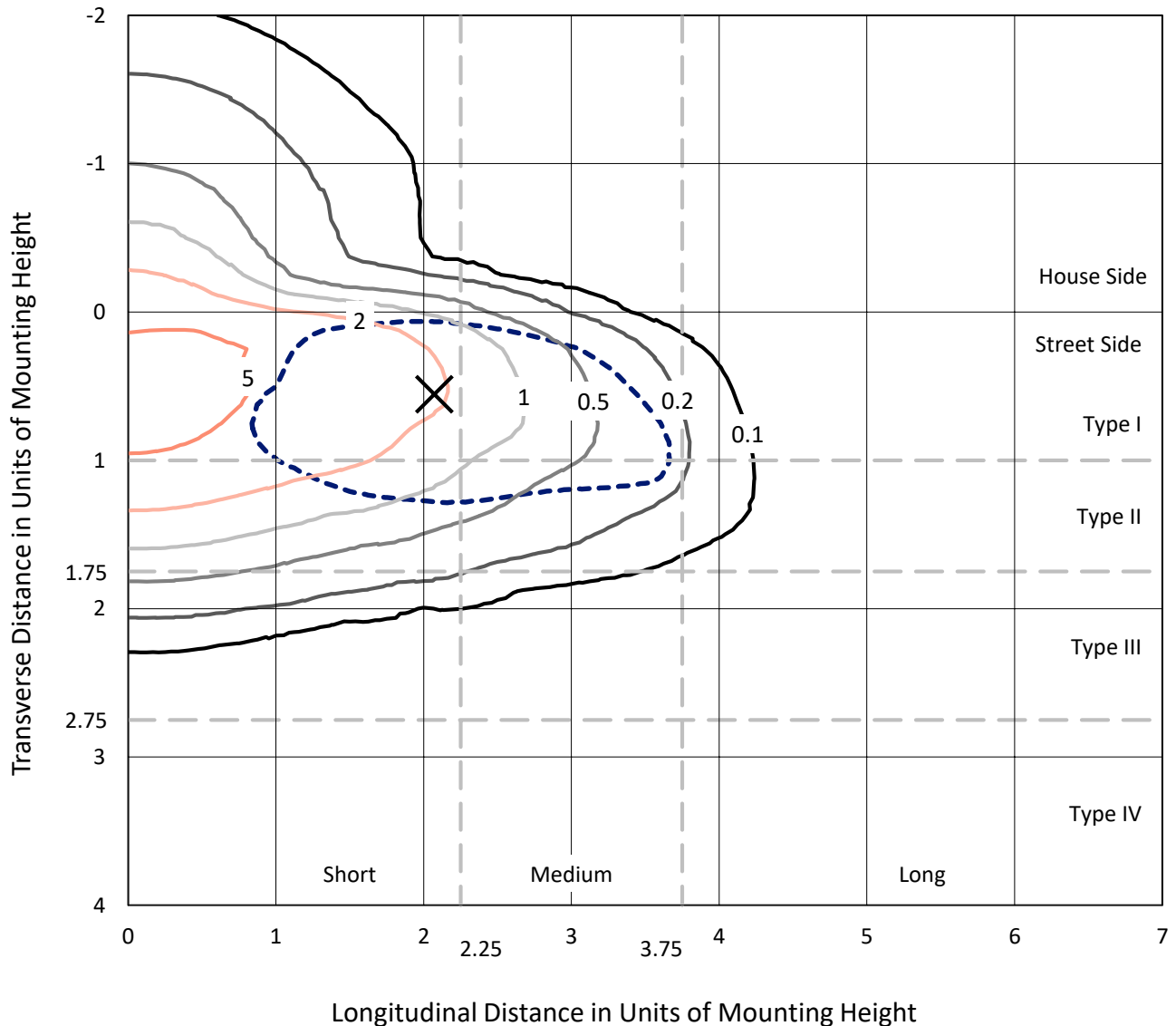


REPORT NUMBER: P196755

CATALOG NUMBER: NAV-AF-03-D-UNV-T2R-7030-600

Iso-Footcandle Lines of Horizontal Illumination

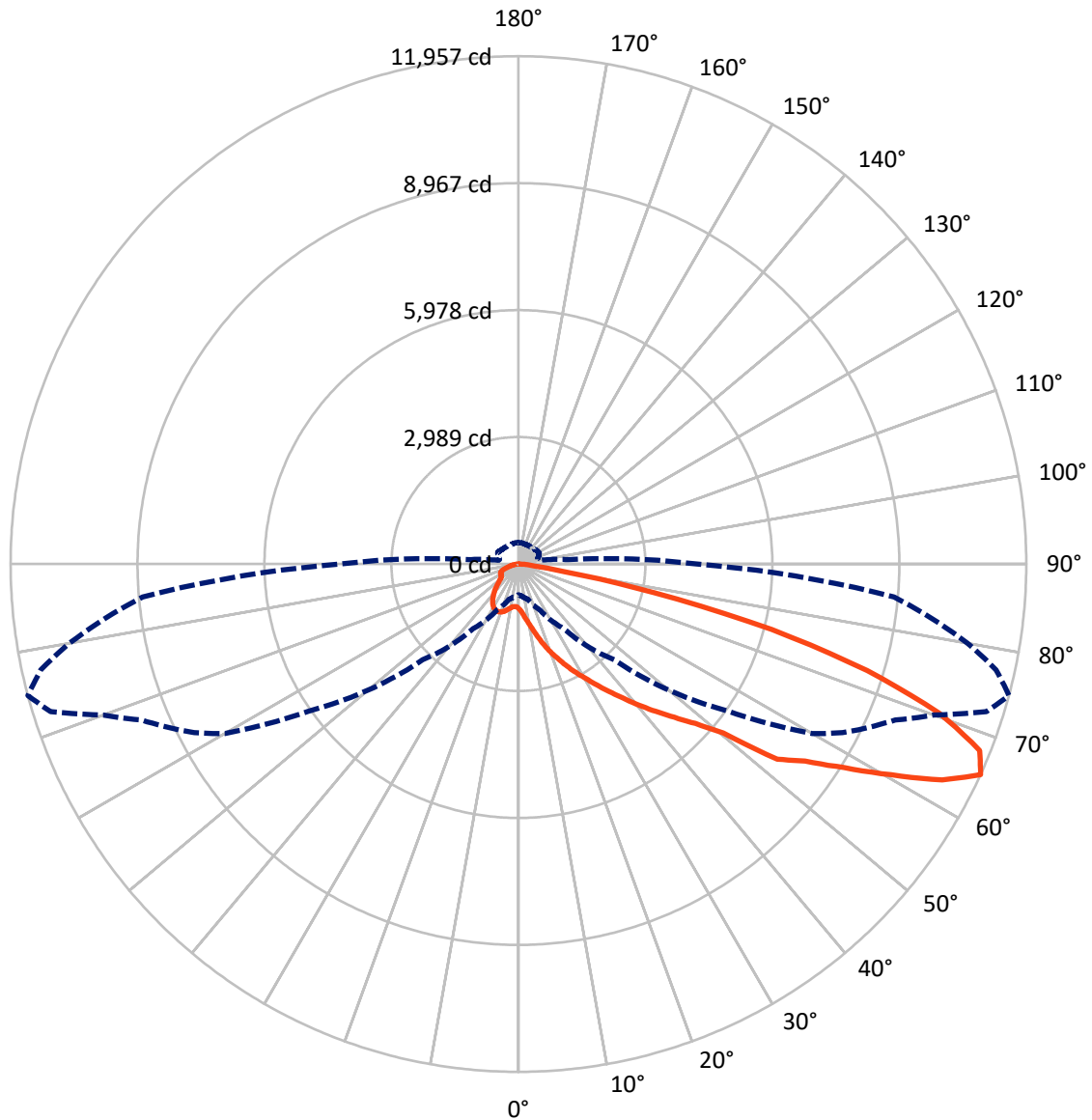
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 7.5 fc
 Type II - Short - Semi-Cutoff

REPORT NUMBER: P196755
CATALOG NUMBER: NAV-AF-03-D-UNV-T2R-7030-600

Luminous Intensity Polar Plot



— Vertical Plane Through 75-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

REPORT NUMBER: P196755

CATALOG NUMBER: NAV-AF-03-D-UNV-T2R-7030-600

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1817.6	0.0	1817.6
	% Fixture	15.0	0.0	15.0
Street Side	Lumens	10278.5	0.0	10278.5
	% Fixture	85.0	0.0	85.0
Total	Lumens	12096.1	0.0	12096.1
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	123.7	1.0
10°-20°	472.6	3.9
20°-30°	953.7	7.9
30°-40°	1619.7	13.4
40°-50°	2259.1	18.7
50°-60°	2768.8	22.9
60°-70°	2605.1	21.5
70°-80°	1142.3	9.4
80°-90°	151.1	1.2
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	12096.1	100.0
0°-180°	12096.1	100.0

Coefficient of Utilization



REPORT NUMBER: P196755

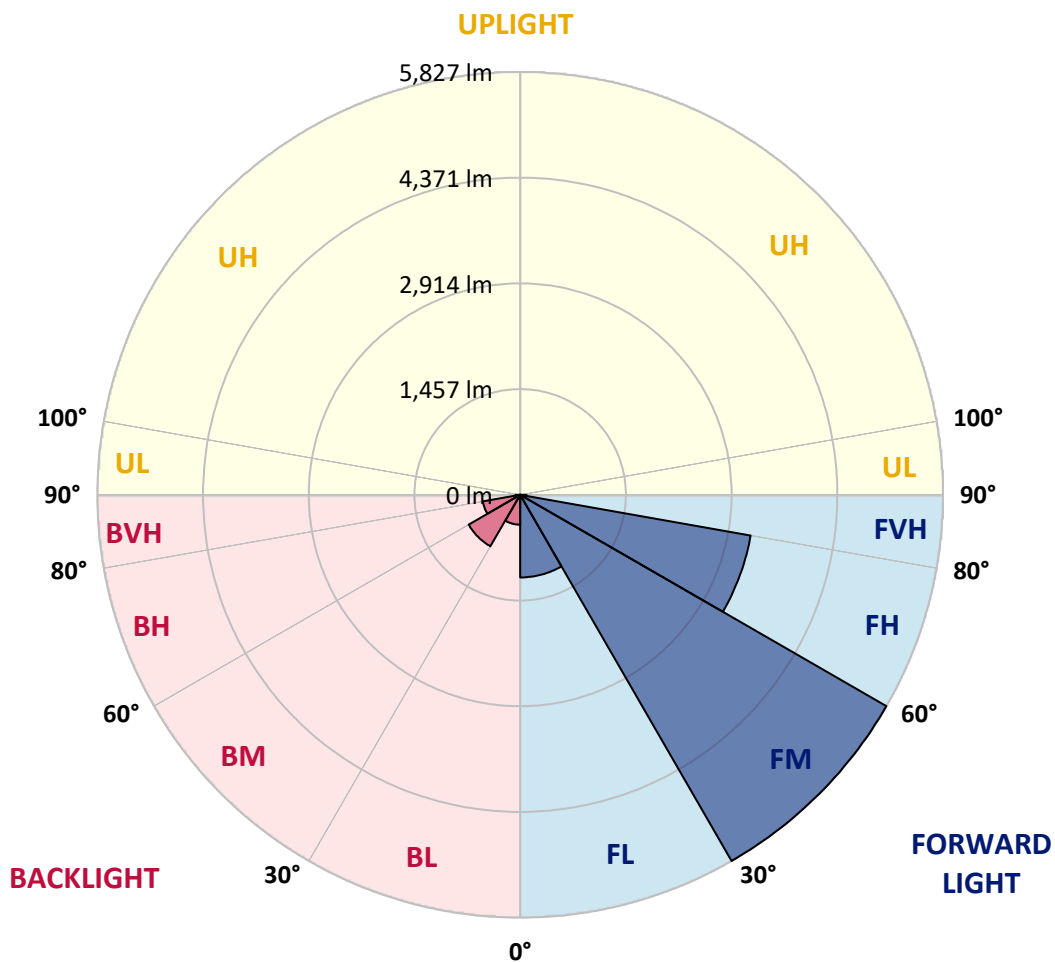
CATALOG NUMBER: NAV-AF-03-D-UNV-T2R-7030-600

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1138.6	9.4			
FM	(30°-60°)	5827.3	48.2			
FH	(60°-80°)	3224.9	26.7			G2/5000
FVH	(80°-90°)	87.6	0.7			G1/100
BL	(0°-30°)	411.5	3.4	B1/500		
BM	(30°-60°)	820.2	6.8	B1/1000		
BH	(60°-80°)	522.4	4.3	B2/1000		G2/1000
BVH	(80°-90°)	63.5	0.5			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G2

Type II Short





REPORT NUMBER: P196755

CATALOG NUMBER: NAV-AF-03-D-UNV-T2R-7030-600

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57.5°	60°	62.5°	65°
0°	1048.1	1048.1	1048.1	1048.1	1048.1	1048.1	1048.1	1048.1	1048.1	1048.1	1048.1
2.5°	1319.7	1304.3	1305.8	1284.3	1252.7	1218.1	1189.7	1174.2	1161.2	1157.3	1135.8
5°	1726.0	1706.7	1699.8	1650.6	1576.7	1488.9	1402.1	1368.2	1340.5	1323.5	1281.9
7.5°	2058.5	2048.4	2039.3	1993.8	1920.7	1808.4	1668.3	1618.2	1572.1	1521.3	1471.2
10°	2284.6	2280.8	2277.0	2245.4	2184.6	2086.9	1936.1	1881.5	1823.7	1759.1	1693.6
12.5°	2455.5	2455.5	2458.6	2432.3	2395.4	2320.0	2183.1	2132.3	2073.7	2006.1	1931.4
15°	2570.1	2573.2	2589.3	2597.1	2577.9	2529.4	2409.2	2364.7	2309.3	2242.3	2168.5
17.5°	2646.3	2652.5	2676.3	2701.7	2726.3	2709.4	2620.1	2578.6	2528.6	2467.0	2397.7
20°	2823.3	2815.6	2816.3	2808.6	2844.8	2857.9	2808.6	2774.0	2734.0	2677.8	2614.8
22.5°	3195.0	3180.3	3142.7	3046.4	3002.6	2998.0	2968.7	2950.2	2919.5	2884.1	2821.0
25°	3679.8	3662.8	3588.2	3429.6	3298.9	3178.1	3124.2	3112.6	3092.6	3068.8	3023.3
27.5°	4180.7	4162.2	4066.0	3865.9	3695.1	3451.2	3283.5	3268.1	3249.6	3239.5	3218.0
30°	4621.5	4601.6	4507.0	4303.8	4097.5	3806.7	3498.2	3444.3	3412.7	3415.8	3403.4
32.5°	5008.7	4991.0	4884.8	4677.7	4468.4	4186.0	3776.6	3692.9	3622.1	3595.8	3605.1
35°	5333.4	5317.2	5201.1	4992.5	4781.6	4547.0	4135.3	4009.0	3893.7	3821.4	3812.8
37.5°	5524.2	5515.0	5433.4	5256.5	5047.1	4874.7	4537.0	4396.9	4226.8	4121.4	4075.3
40°	5513.4	5523.4	5509.6	5429.5	5267.2	5141.7	4955.6	4817.0	4650.8	4493.9	4400.0
42.5°	5356.4	5370.3	5432.6	5474.2	5430.3	5354.1	5321.0	5217.9	5068.6	4902.5	4772.5
45°	5140.9	5153.3	5234.1	5384.2	5509.6	5531.1	5641.2	5589.6	5463.4	5321.8	5178.7
47.5°	4810.9	4834.7	4928.5	5167.2	5465.7	5673.5	5909.8	5933.6	5860.4	5743.5	5609.6
50°	4333.0	4364.6	4496.1	4835.5	5299.5	5819.7	6309.0	6399.9	6370.7	6252.2	6116.8
52.5°	3843.6	3875.2	4050.6	4411.6	5031.7	5879.7	6702.3	6934.6	7102.4	7224.8	7248.7
55°	3334.3	3369.7	3562.0	3977.5	4674.6	5803.6	6983.2	7247.0	7417.2	7544.9	7596.5
57.5°	2759.5	2799.4	2985.6	3405.8	4169.9	5497.3	7295.6	7669.6	7922.7	8119.7	8230.5
60°	2100.0	2150.0	2343.1	2766.3	3506.5	4910.8	7434.9	7988.2	8390.6	8686.1	8861.5
62.5°	1331.3	1382.0	1582.8	2022.3	2751.7	4109.9	7040.8	7848.1	8534.5	8971.5	9293.1
65°	726.3	748.8	860.3	1191.2	1855.2	3188.8	6042.0	6993.9	7982.7	8602.2	9096.2
67.5°	544.7	547.9	559.4	640.3	988.0	2153.1	4724.0	5595.8	6693.9	7491.1	8081.3
70°	477.1	477.1	478.7	479.4	536.4	1166.6	3200.3	4002.9	5009.4	5815.9	6549.2
72.5°	427.9	423.3	421.6	412.5	420.1	597.8	1742.1	2463.1	3311.8	4216.9	4901.0
75°	369.4	368.6	368.6	359.4	364.0	420.8	755.6	1181.9	1839.8	2682.5	3355.8
77.5°	319.4	313.9	314.7	309.3	324.0	322.5	358.6	487.1	801.1	1408.9	1967.6
80°	263.2	259.3	261.6	258.5	281.7	238.5	241.6	297.8	397.8	617.9	871.1
82.5°	194.7	196.2	210.9	209.3	237.0	160.8	177.0	222.4	267.8	307.8	334.8
85°	113.8	116.2	151.6	159.3	173.9	84.6	108.5	132.3	149.2	165.4	172.4
87.5°	12.3	16.2	84.6	87.0	77.7	25.3	43.8	55.4	59.2	63.2	55.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P196755

CATALOG NUMBER: NAV-AF-03-D-UNV-T2R-7030-600

CANDELA DISTRIBUTION (continued):

	67.5°	70°	72.5°	75°	77.5°	80°	85°	90°	95°	100°	102.5°
0°	1048.1	1048.1	1048.1	1048.1	1048.1	1048.1	1048.1	1048.1	1048.1	1048.1	1048.1
2.5°	1128.8	1118.9	1108.1	1101.9	1091.2	1081.8	1065.0	1051.2	1035.8	1025.0	1020.4
5°	1261.2	1237.4	1211.9	1193.4	1170.3	1150.4	1111.9	1065.8	1051.2	1020.4	1012.7
7.5°	1433.6	1390.5	1347.3	1311.9	1272.0	1238.9	1174.2	1091.2	1080.3	1031.1	1020.4
10°	1635.9	1572.9	1509.0	1454.4	1395.9	1345.1	1249.7	1132.7	1121.1	1058.0	1047.2
12.5°	1862.3	1785.2	1703.0	1621.3	1552.0	1480.5	1350.5	1197.4	1178.9	1104.2	1089.7
15°	2095.4	2012.2	1916.9	1818.3	1732.9	1638.3	1474.4	1281.9	1248.1	1160.5	1140.3
17.5°	2325.4	2235.3	2135.4	2025.3	1925.2	1812.2	1608.3	1376.6	1318.1	1215.8	1190.4
20°	2547.8	2456.2	2350.8	2243.1	2118.4	1989.2	1745.2	1469.7	1380.5	1262.0	1228.8
22.5°	2750.2	2671.7	2566.3	2442.4	2316.2	2170.8	1884.5	1562.9	1435.1	1297.4	1255.1
25°	2963.3	2891.8	2787.1	2667.9	2520.8	2359.2	2028.4	1651.4	1479.0	1316.6	1264.2
27.5°	3178.8	3117.2	3018.8	2893.3	2735.6	2556.2	2174.6	1732.9	1514.4	1322.8	1259.6
30°	3408.9	3361.2	3270.3	3130.3	2971.0	2772.5	2333.9	1812.9	1536.7	1314.3	1238.9
32.5°	3626.7	3625.1	3544.3	3398.8	3227.3	3008.7	2501.6	1893.7	1548.2	1290.5	1202.7
35°	3852.8	3884.3	3823.6	3685.1	3504.3	3261.9	2687.1	1979.9	1549.0	1248.1	1155.8
37.5°	4109.9	4166.0	4139.1	4007.5	3817.5	3550.5	2904.8	2076.9	1544.4	1189.7	1087.3
40°	4402.3	4479.2	4478.4	4367.6	4164.5	3873.7	3158.0	2185.4	1533.6	1116.5	1006.5
42.5°	4737.1	4828.6	4854.0	4744.7	4539.2	4226.8	3448.1	2304.6	1516.6	1044.2	921.0
45°	5120.2	5201.1	5248.7	5147.2	4940.9	4611.7	3781.4	2440.1	1495.9	951.1	823.4
47.5°	5530.3	5624.2	5695.8	5608.9	5388.7	5050.2	4176.0	2614.8	1488.2	844.9	718.0
50°	6039.0	6136.0	6290.6	6251.4	6130.5	5858.2	5010.9	3027.2	1491.3	744.0	629.5
52.5°	7300.9	7523.4	7718.8	7631.9	7344.9	6877.8	5689.6	3256.5	1426.6	661.8	567.9
55°	7681.9	7934.3	8222.9	8186.7	7911.1	7440.2	6226.0	3448.1	1364.3	601.7	527.8
57.5°	8348.3	8646.0	9049.3	9041.5	8703.8	8173.5	6916.2	3677.4	1337.4	567.2	507.8
60°	9053.9	9433.2	9990.3	10077.3	9710.3	9158.5	7731.8	3959.0	1341.2	547.9	496.4
62.5°	9569.5	10125.8	10936.1	11196.2	10763.6	10155.7	8578.4	4240.7	1318.1	525.5	482.5
65°	9600.9	10402.0	11551.7	11956.5	11518.5	10737.6	8876.9	4185.2	1179.7	495.6	460.2
67.5°	8831.5	9875.0	11271.5	11715.6	11267.7	10379.0	8353.6	3659.0	958.7	443.3	421.6
70°	7355.6	8566.8	10016.6	10511.3	10141.2	9241.5	7270.2	2922.5	716.4	374.0	364.0
72.5°	5684.2	6813.9	8130.5	8588.4	8305.2	7514.1	5734.3	2130.0	511.7	303.2	295.4
75°	4063.7	5025.6	5981.3	6156.0	5876.6	5150.3	3720.5	1330.4	358.6	248.6	237.7
77.5°	2516.2	3141.9	3485.1	3260.4	2904.1	2413.9	1514.4	657.2	238.5	202.3	191.6
80°	1116.5	1310.4	1223.4	1090.4	861.1	707.9	462.5	291.6	153.9	156.2	150.0
82.5°	375.6	397.0	386.3	383.9	346.3	303.2	196.2	126.2	86.2	100.1	97.7
85°	183.1	191.6	192.4	199.3	173.1	134.6	53.1	50.0	36.9	53.9	56.2
87.5°	55.4	56.2	50.8	55.4	44.6	30.8	10.1	13.8	6.9	13.1	13.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P196755

CATALOG NUMBER: NAV-AF-03-D-UNV-T2R-7030-600

CANDELA DISTRIBUTION (continued):

	105°	107.5°	110°	112.5°	115°	117.5°	120°	122.5°	125°	127.5°	130°
0°	1048.1	1048.1	1048.1	1048.1	1048.1	1048.1	1048.1	1048.1	1048.1	1048.1	1048.1
2.5°	1011.8	1008.8	1003.4	997.3	995.7	988.0	985.7	981.9	979.6	975.6	972.6
5°	1002.7	997.3	991.1	984.2	984.2	973.4	968.8	964.2	964.2	957.2	954.2
7.5°	1011.8	1004.9	998.1	991.8	994.1	981.9	977.3	972.6	971.9	965.0	961.9
10°	1038.1	1031.1	1022.6	1016.5	1014.2	1004.2	998.8	991.8	987.2	982.7	978.0
12.5°	1078.1	1068.9	1058.0	1044.9	1039.6	1031.1	1022.6	1013.4	1002.7	998.1	991.1
15°	1125.8	1110.4	1095.8	1079.6	1065.0	1056.5	1044.9	1030.4	1015.8	1009.5	1000.4
17.5°	1165.0	1148.9	1128.1	1108.9	1082.6	1075.7	1059.6	1041.9	1018.1	1015.8	1001.9
20°	1198.1	1173.5	1148.1	1125.1	1085.0	1081.1	1061.1	1040.3	1006.5	1006.5	989.6
22.5°	1216.6	1182.7	1152.6	1121.9	1072.0	1068.9	1045.7	1021.1	979.6	981.1	960.3
25°	1219.7	1178.9	1141.2	1104.2	1046.4	1041.1	1011.8	985.0	939.5	936.5	914.9
27.5°	1207.4	1159.7	1115.7	1071.2	1008.8	997.3	965.0	932.6	888.0	880.3	857.2
30°	1178.9	1122.6	1073.5	1021.9	956.4	938.0	904.1	871.1	825.7	815.6	794.1
32.5°	1133.4	1069.6	1015.0	963.4	891.1	867.9	834.0	801.1	757.1	749.5	729.6
35°	1073.5	1001.9	944.2	889.6	817.1	793.3	761.0	731.8	691.8	688.7	674.9
37.5°	998.1	923.4	861.8	809.5	741.0	728.8	695.7	674.1	641.1	644.1	637.1
40°	912.7	836.5	777.9	731.8	672.5	661.8	641.8	625.6	597.1	605.7	606.4
42.5°	826.4	750.3	697.2	655.5	604.9	597.8	584.1	574.8	553.3	570.3	577.1
45°	728.8	658.0	612.5	580.9	543.2	543.2	536.4	535.6	520.9	544.7	551.8
47.5°	634.0	578.6	547.1	527.8	501.7	514.1	511.7	517.9	507.1	531.8	537.9
50°	562.4	524.0	504.8	495.6	477.1	496.4	501.0	509.3	500.2	521.7	526.3
52.5°	517.2	491.6	481.0	478.7	465.6	489.4	497.1	504.8	494.1	514.1	513.3
55°	491.6	474.7	470.9	475.5	465.6	488.6	496.4	501.7	492.4	506.3	505.6
57.5°	482.5	473.2	475.5	482.5	475.5	494.8	498.7	504.8	495.6	501.7	504.8
60°	481.8	481.8	490.9	500.2	495.6	509.3	511.7	510.9	502.5	503.2	504.8
62.5°	477.1	488.6	504.0	518.7	517.2	534.1	535.6	525.5	518.7	510.9	508.6
65°	462.5	481.8	504.0	524.0	527.0	553.3	556.3	546.3	541.7	528.6	518.7
67.5°	430.2	454.7	481.0	505.6	510.9	546.3	553.3	557.1	559.4	551.0	537.9
70°	375.6	400.9	427.9	456.2	464.1	503.2	517.9	535.6	549.5	561.7	557.1
72.5°	305.5	328.6	351.7	377.8	389.4	430.2	449.4	480.2	501.7	533.3	546.3
75°	242.3	256.2	270.1	286.3	295.4	335.5	359.4	396.3	425.6	469.4	498.7
77.5°	190.8	197.8	204.7	211.6	215.5	237.7	257.0	293.9	327.8	383.2	426.3
80°	147.0	150.8	151.6	153.9	152.3	163.2	170.0	192.4	221.6	276.2	327.0
82.5°	94.6	97.7	99.3	103.1	95.4	109.3	113.8	116.2	131.5	171.6	207.8
85°	53.1	53.9	54.6	56.2	45.5	59.2	60.0	56.2	54.6	70.8	80.0
87.5°	13.1	12.3	13.1	13.1	5.4	12.3	12.3	8.4	6.1	11.6	9.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P196755

CATALOG NUMBER: NAV-AF-03-D-UNV-T2R-7030-600

CANDELA DISTRIBUTION (continued):

	135°	145°	155°	165°	175°	180°
0°	1048.1	1048.1	1048.1	1048.1	1048.1	1048.1
2.5°	965.8	964.2	965.0	961.2	959.6	960.3
5°	950.3	947.3	947.3	945.0	941.9	941.9
7.5°	957.2	951.1	948.8	944.2	939.5	940.2
10°	968.0	957.2	949.6	942.6	937.2	937.2
12.5°	974.9	955.7	944.2	934.9	928.8	928.8
15°	976.4	947.3	930.4	920.3	914.2	914.2
17.5°	967.3	930.4	908.8	895.7	888.8	890.4
20°	944.2	898.7	873.4	859.6	852.6	853.5
22.5°	908.1	855.7	826.4	810.2	803.4	803.4
25°	858.8	801.9	770.3	757.1	751.0	751.0
27.5°	802.6	744.0	716.4	706.4	702.5	702.5
30°	739.4	690.9	671.0	664.1	658.0	658.0
32.5°	686.3	651.7	644.8	635.6	619.4	618.6
35°	644.1	640.3	634.8	607.2	584.1	580.9
37.5°	621.0	644.1	610.2	562.4	544.0	543.2
40°	608.7	630.2	571.8	548.7	546.3	546.3
42.5°	579.4	594.8	569.5	556.3	556.3	557.1
45°	548.7	561.7	574.8	563.2	567.2	567.9
47.5°	527.0	553.3	574.8	564.8	572.5	577.1
50°	507.1	545.5	563.2	563.2	571.8	572.5
52.5°	502.5	534.9	552.6	560.9	561.7	557.9
55°	503.2	526.3	544.0	554.8	550.2	550.2
57.5°	502.5	521.7	537.1	541.0	543.2	543.2
60°	503.2	515.6	527.8	526.3	534.1	534.1
62.5°	505.6	507.1	513.3	511.7	523.3	523.3
65°	510.9	496.4	492.4	494.1	507.8	507.1
67.5°	520.9	481.8	469.4	470.2	490.1	487.1
70°	535.6	461.7	443.3	438.5	472.4	467.1
72.5°	540.2	438.5	409.4	404.8	424.8	409.4
75°	518.7	420.1	373.2	357.9	349.3	344.7
77.5°	462.5	408.6	335.5	303.2	290.1	287.1
80°	383.2	384.7	286.3	247.8	287.8	287.1
82.5°	289.3	332.4	229.3	214.7	208.5	173.9
85°	140.1	250.1	176.2	147.7	88.5	83.9
87.5°	12.3	104.7	101.6	66.2	30.0	28.5
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)